



Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

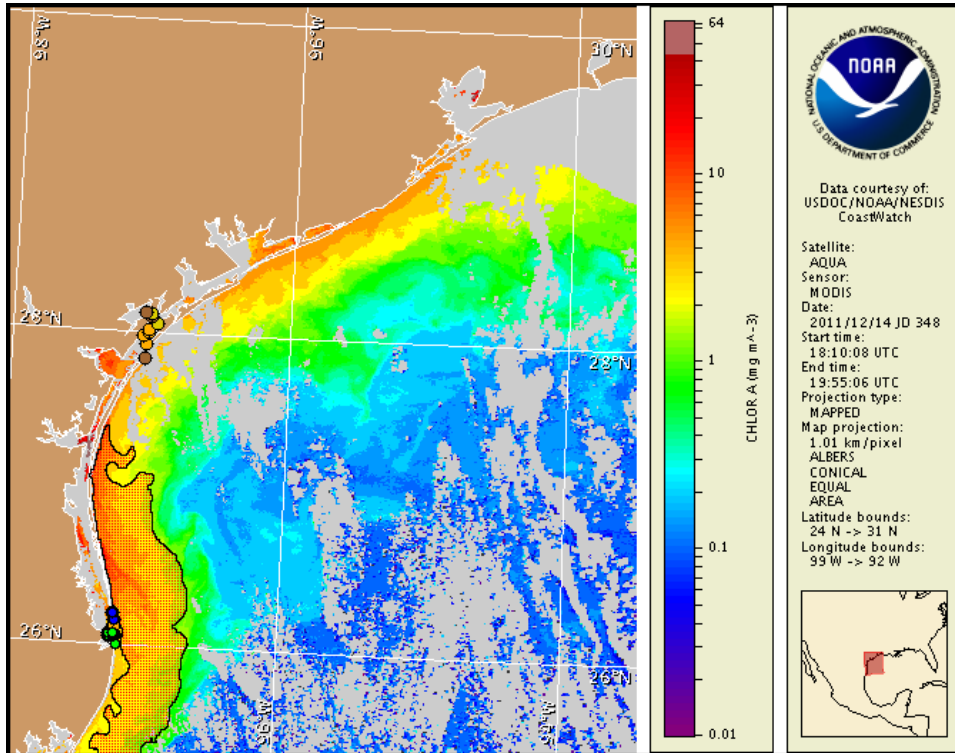
Thursday, 15 December 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Monday, December 12, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from December 5 to 15 shown as red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfbs_bulletin_guide.pdf

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive:
<http://tidesandcurrents.noaa.gov/hab/bulletins.html>

Conditions Report

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, within the Matagorda Bay area, in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, and within the lower Laguna Madre. Patchy high impacts are possible on Saturday in the South Padre Island region, and on Sunday in the Port Aransas/Corpus Christi Bay area. Patchy moderate impacts are possible today through Sunday within the lower Laguna Madre, today and Saturday in the Port Aransas/Corpus Christi Bay area, and today, Friday, and Sunday in the South Padre Island region. Patchy very low impacts are possible on Friday in the Port Aransas/Corpus Christi Bay area. Water samples last identified harmful algal blooms in the Galveston/Freeport area on November 17, alongshore the Matagorda Peninsula and within Matagorda Bay on November 15, alongshore the Padre Island National Seashore region on November 28, and within the Brownsville Ship Channel on December 2. Associated respiratory impacts remain possible in these areas. No additional impacts are expected at the coast in Texas today through Sunday, December 18. Respiratory irritation and dead fish have been reported from alongshore Padre Island National Seashore and South Padre Island. Dead fish have been reported from within Aransas Pass, Aransas Bay, and Matagorda Bay. Discolored water has been reported from Corpus Christi Bay. All Texas bays and coastal waters remain closed to commercial and recreational oyster harvesting due to blooms of the harmful algae *Karenia brevis* (red tide).

Analysis

A harmful algal bloom continues along much of the Texas coastline.

No new samples have been received from the Galveston and Matagorda regions. The latest samples indicated 'low a' to 'low b' *Karenia brevis* concentrations in northwest Galveston Bay (11/17; TPWD) and 'low b' to 'high' concentrations within Matagorda Bay (11/1-7; TPWD). In the Matagorda Bay/ Lavaca Bay region, dead mullet and jellyfish have been reported near Virginia Street in Port Lavaca and at Magnolia Beach (12/14; TPWD).

In the Port Aransas region, samples collected from the Gulf-side of Aransas Pass at the UTMSI pier, indicate that *K. brevis* concentrations have decreased to 'very low b' on the surface and 'low a' at depth; the majority of cells identified were *K. mikimotoi* (12/14; TPWD). Dead fish have been reported from within Aransas Pass and Aransas Bay (12/14; TPWD). Discolored water and feeding birds were reported from within Corpus Christi Bay near the TAMU-CC campus. Hundreds of dead fish have been reported alongshore Packery Channel near the JFK Memorial Causeway Bridge (12/14; TPWD).

No new samples are available from alongshore Padre Island National Seashore, where the latest samples indicated 'medium' to 'high' concentrations along the coast (11/28; TPWD). Reports have been received of respiratory irritation and dead fish beginning around the 35 mile marker (12/14; TPWD). Sampling alongshore this area is recommended (see below for description of feature location based on recent imagery).

In the South Padre Island region, samples collected from Beach Access 5 and 6 indicate that *K. brevis* remains between 'very low b' and 'medium' concentrations (12/13-14; TPWD). 'Medium' concentrations of *K. brevis* were identified from two sample locations

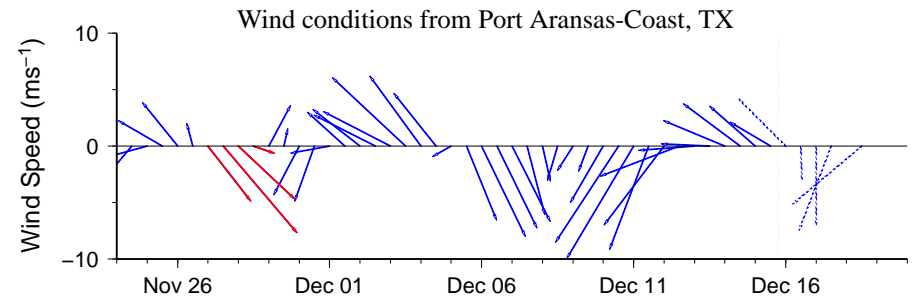
less than a mile south of Andy Bowie County Park: Good Hope Beach Access (Gulf-side) and the Polaris Street Boat Ramp (Bay-side) (12/14; TPWD). However, samples indicate that *K. brevis* concentrations may be decreasing further south. Alongshore the Gulf Coast of South Padre Island, samples collected from the UTPA Coastal Studies Lab indicate that *K. brevis* concentrations have decreased to between 'present' and 'very low b', and have decreased to 'not present' at sample locations within Brazos Santiago Pass (Gulf-side) and alongshore Boca Chica Beach at Highway 4 (12/12-15; TPWD). Within the southern portion of the lower Laguna Madre, *K. brevis* concentrations have decreased, as well. On the South Padre Island side, samples indicate that *K. brevis* concentrations have decreased to between 'not present' and 'present' at the Isla Blanca boat ramp and remain between 'not present' and 'very low b' at the nearby east end of the Queen Isabella Causeway (12/12-15; TPWD). On the western side of the lower Laguna Madre, near Port Isabel, samples indicate that *K. brevis* concentrations have decreased to between 'not present' and 'very low a' at the west end of the Queen Isabella Causeway and have decreased to 'not present' within Canal C at Long Island Village (12/12-13; TPWD). The most recent sample collected within the Brownsville Ship Channel indicated 'high' concentrations at the San Martin Boat ramp (12/2; TPWD). Respiratory irritation was reported along the Gulf Coast of South Padre Island, with impacts worsening as observers traveled north. Dead fish were reported extending north from approximately 7 miles north of Beach Access 6.

Recent MODIS imagery (12/14; page 1) is partially obscured by clouds along the Texas coastline from Sabine Pass to the Galveston Island region and in the Matagorda Island/San Jose Island region, limiting analysis in these regions. The feature of elevated to very high chlorophyll (6 to $>20\mu\text{g/L}$), last identified on 12/8, remains visible in imagery (MODIS, 12/14) stretching alongshore from Mustang Island State Park ($27^{\circ}26'39''\text{N}$, $97^{\circ}16'31''\text{W}$) to South Padre Island ($26^{\circ}15'52''\text{N}$, $97^{\circ}10'41''\text{W}$), and extending up to 20 km offshore South Padre Island. Elevated chlorophyll ($2\text{--}5\mu\text{g/L}$) is also visible stretching along- and offshore from the Galveston region to south of the Rio Grande. Elevated chlorophyll at the coast may contain *K. brevis*, but could also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of blooms from satellite imagery alone.

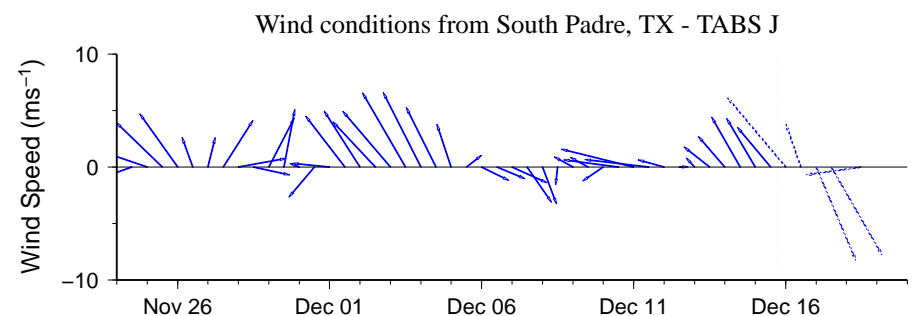
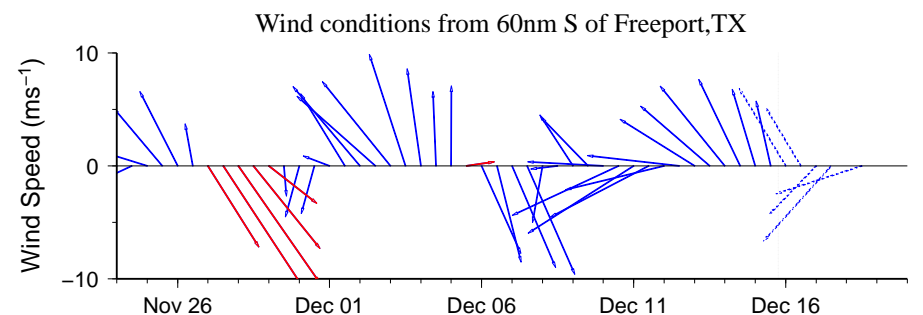
Forecast models based on predicted near-surface currents indicate a maximum bloom transport from coastal sample locations of 90 km south from the Galveston Bay region, 50 km south from the Matagorda Peninsula region, 30 km south from Port Aransas, 100 km south along the Padre Island National Seashore region, and 50 km south from Brazos Santiago Pass from December 14-18. Onshore winds over the next several days will increase the potential for impacts along the Texas coastline.

Kavanaugh, Derner

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Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).

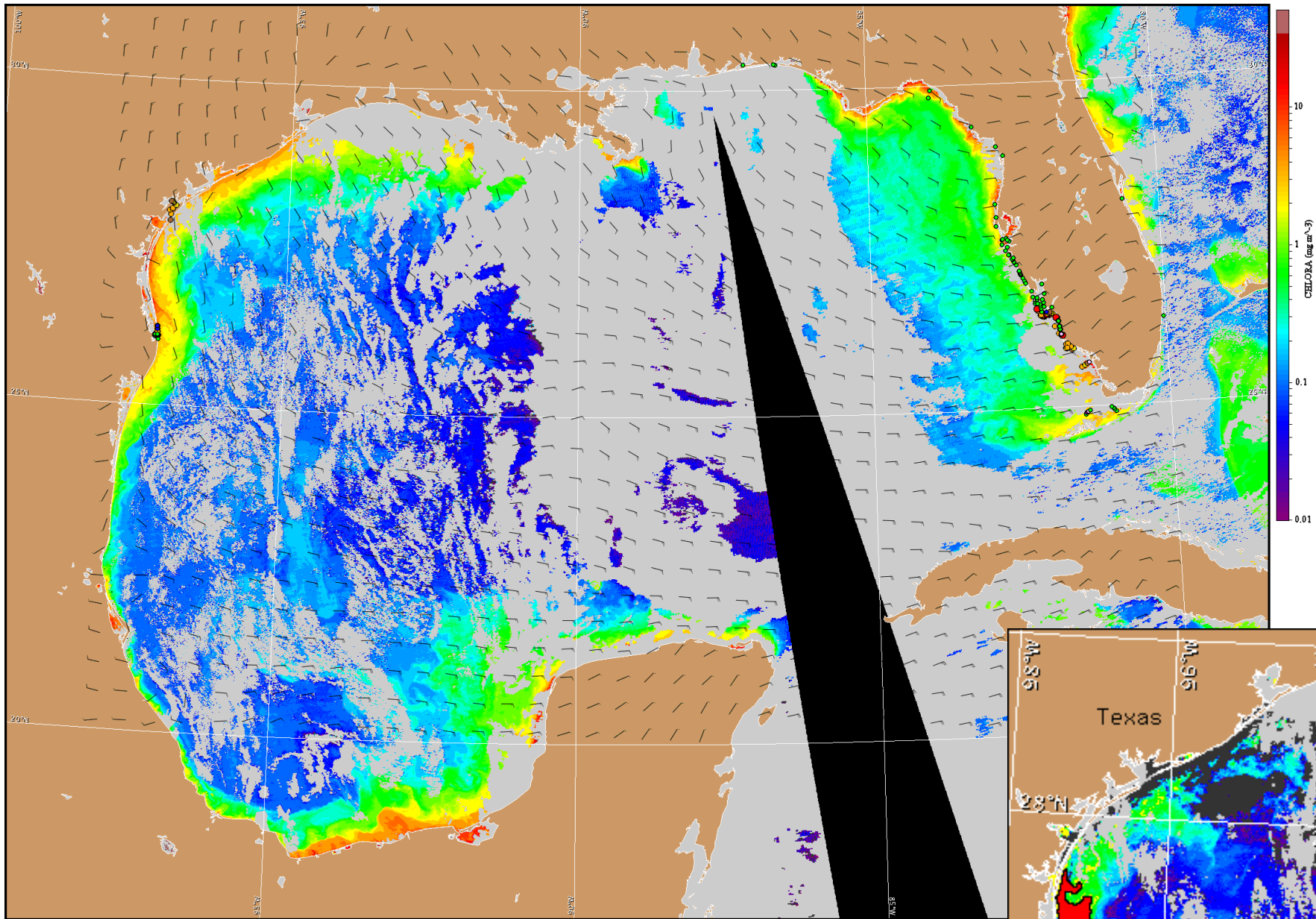


Wind Analysis

Galveston/Freeport: East to southeast winds (5-10 kn, 3-5 m/s) today through Friday afternoon becoming northeast winds (10-20 kn, 5-10 m/s) Friday night through Saturday night. East to southeast winds (10-15 kn, 5-8 m/s) Sunday.

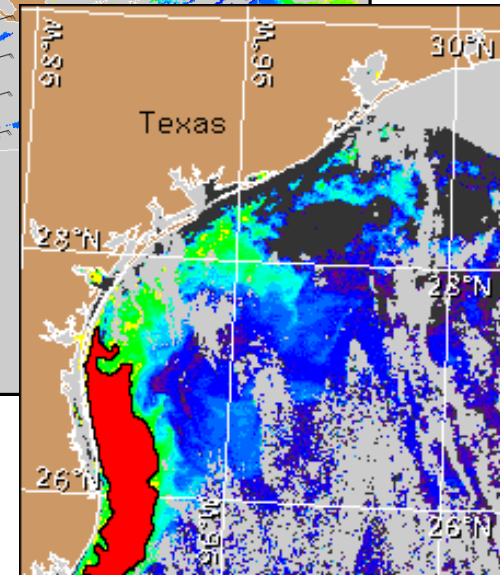
Port Aransas: Southeast winds (10-15 kn) today becoming northeast winds (10 kn, 5 m/s) after midnight. North winds (10-20 kn) Friday through Saturday becoming northeast winds (10-15 kn) Saturday night. East to southeast winds (10-20 kn) Sunday.

South Padre: Southeast winds (10-15 kn) today through tonight. West winds (10 kn) Friday becoming north winds (10-20 kn) Friday afternoon through Saturday. Southeast winds (15 kn, 8 m/s) Sunday.



Satellite chlorophyll image and forecast winds for December 16, 2011 12Z with cell concentration sampling data from December 5 to 15 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).